

Task List for Operational Readiness SC magnets at MICE Step IV (internal use)

Introduction

This document describes the task list required to prepare the superconducting magnet training in MICE Step IV cooling channel, to successfully train these magnets and perform stable operations for data taking with magnets in several configurations. The required personnel to fulfil each task, the name of responsible signing off, the target and completion dates are provided together with the risk assessment.

Preparation for magnet training

Task	Description	Personnel	Responsible	Comments	Target date	Date completed	Sign off completed
Spectrometer Solenoids							
1.	Confirm stable SSD insulation vacuum	M. Leonova P. Hanlet	A. Bross M. Palmer	accomplished?	15 July		?
2.	Secure and strain-relieve vent cold mass vent lines. Also install rotometer for SSD.	M. Leonova P. Hanlet	A. Bross M. Palmer		15 July		
3.	Install power lead fans for SSD	RAL	A. Bross/ M. Palmer		15 July		
4.	Connect and provide controls for feedthrough heaters on SSU and SSD	T.Hartnett, M. Lowe	S. Griffiths	accomplished	15 July		YES
5.	Verify all magnet and vacuum instrumentation	P. Hanlet, M. Leonova	A. Bross/ M. Palmer		16 July		
6.	Validate He level sensor operation for both magnets	P. Hanlet, M. Leonova	A. Bross/ M. Palmer		16 July		
7.	Validate and tune heater circuits to maintain cold volume pressures	P. Hanlet, M. Leonova	A. Bross/ M. Palmer		16 July		

8.	Verify power system interlocks	P. Hanlet., T. Hartnett., M. Lowe	S. Griffiths		14 July		
9.	Verify and service low pressure relief valves	P. Hanlet, M. Leonova	A. Bross/ M. Palmer		17 July		
10.	Hi-Pot power leads	S Griffiths., T.Hartnett., M. Lowe	S. Feher		17-19 July		
11.	Validate replacement voltage tap cable	A. Bross C. Macwaters	S. Feher		17 July		
12.	Link-box shorted test of QP system	S. Griffiths., T. Hartnett., M. Lowe	P. Hanlet		17 July		
13.	Inspect and confirm proper configuration of inter-magnet bellows locks	RAL	J. Tarrant		17 July		
14.	Helium backup gas system installed and functioning.	RAL	A. Nichols		17 July		
15.	Voltage tap cables, pulled, attached and checked	J. Duffy, T. Thompson	A. Bross/ M. Palmer		19 July		
16.	"10 Amp" test of QP system	A. Bross, M. Leonova, P. Hanlet	S. Feher		19 July		
17.	Validate PPS ramp-down behaviour (including low current test)	P. Hanlet, A.Bross T. Hartnett M.Lowe	S. Griffiths		15 July		
Focus Coil							
18.	FC interlocks verification	P. Hanlet T. Harnett M.Lowe	S. Griffiths		15 July		
19.	Commission FC PSU	T. Hartnett, M. Love	S. Griffiths		15 July		
20.	Finalise installation of QD system	S. Griffiths, T. Hartnett	S. Griffiths/	accomplished	20 July		YES

21.	Install anti-icing heaters for FC	S. Griffiths, T. Hartnett	S. Griffiths		17 July		
22.	Commission logging system (fast and slow)	P. Hanlet ? S. Griffiths ? T. Hartnett ?	J. Cobb/ S. Watson		20 July		
23.	Initial test of FC QP System	S. Griffiths, T. Hartnett	S. Griffiths		20 July		
	Low current test of FC magnet	S. Griffiths, T. Hartnett	S. Griffiths		21 July		
	Final validation of FC QP and data logger	S. Griffiths, T. Hartnett	S. Griffiths		21 July		
24.	Make ArchiveViewer functional remotely	P. Hanlet	P. Hanlet	Not essential, but useful	17 July		
25.	Validate PPS ramp-down behaviour for FC	S. Griffiths, T. Hartnett	S. Griffiths/		21 July		
26.	Install ground fault protection for FC	S. Griffiths, T. Hartnett	S. Griffiths/		22 July Consult with SG		
Other							
27.	Install temporary scaffolding to allow access to SC magnets		J. Tarrant	Dropped	17 July		NO
28.	Draw wires installed and connected to the control system		P. Hanlet	Status tbc	17 July		
29.	Install ODH system		S. Griffiths	accomplished	15 July		YES
30.	Commission ODH system	Crocon	A. Nichols		16 July		
31.	Install the access platform	contractors	J. Tarrant		1 August ?		

Magnet training

Spectrometer Solenoids							
32.	Configure PSU to power E2 coils only	M. Leonova, P. Hanlet, ?	A. Bross/ M. Palmer		19 July		
33.	Train E2 coils for SSU and SSD	M. Leonova, P. Hanlet ?	A. Bross/ M. Palmer		20 July ?		
34.	Reconfigure PSU to power all coils	M. Leonova, P. Hanlet ?	A. Bross/ M. Palmer		23 July ?		
35.	Confirm coil polarities in SSU and SSD	M. Leonova, P. Hanlet ?	A. Bross/ M. Palmer		23 July ?		
36.	Perform SSU and SSD trainings to full spec, including stability test	M. Leonova, P. Hanlet ?	A. Bross/ M. Palmer		31 July ?		
Focus Coil							
37.	Confirm cooled down of FC	RAL	J. Cobb/ S. Watson		23 July		
38.	Bring FC to the full spec	RAL	J. Cobb/ S. Watson		~24 July		
39.	Confirm polarity of FC	RAL	J. Cobb/ S. Watson		24 July		
Combined training							
40.	Bring full Step IV Channel to training setting and few standard operational settings in solenoid mode	P. Hanlet, S. Watson, J. Cobb ?	J. Pasternak		7August ?		
41.	Flip polarity is SSD	P. Hanlet,	A. Bross		??		

42.	Flip polarity in FC	RAL	S. Watson/ J. Cobb		??		
41.	Bring full Step IV Channel to training setting and few standard operational settings in solenoid mode	P. Hanlet, S. Watson, J. Cobb ?	J. Pasternak		???		